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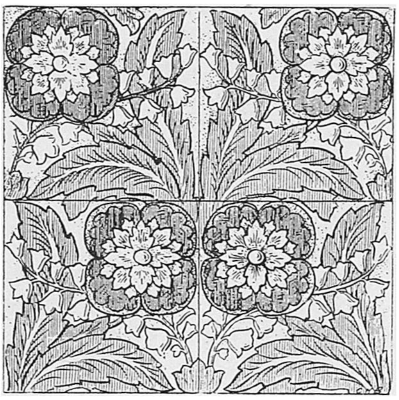
TECHNICAL CHAPTERS.—No. 7.
TILES. I.

By Lewis F. Day.

TILE manufacture covers a very wide ground. The slab of baked clay, rectangular as a rule, which goes by the name of a tile, may be just a smooth piece of terra cotta, such as we find in cottage floors; it may be incised or inlaid with a pattern, as in the case of encaustic tiles so-called: it may be roughened and enriched with modelling: it may be overlaid with opaque enamel of a color not natural to burnt clay: it may be dull as earth or glossy as glass, and its glossy coat may be rich with transparent color: it may be patterned with color, either transparent or opaque; and the pattern may be painted directly upon the clay, or upon the enamel, or upon the glaze: the color may take the iridescent sheen of lustre. A tile may be printed in one color or in many; it may be stamped in high or low relief; it may be decorated by any and every process known to the potter. It goes without saying that our tile may combine in its manufacture, as it mostly does, several of the processes above mentioned. For example, painted tiles are usually covered with a varnish of white glaze, not only to protect the surface, but to bring out the color, much as copal or mastic brings out the tones of an oil painting; and again, glazed tiles often have a pattern painted over the glaze, and printed tiles are touched up with hand-painting; modelled tiles are ordinarily coated with colored glaze; or they may be painted in colors and then glazed; or they may be painted in glazes of various colors; and so on to the end of the chapter—and what a long one it is!—of expedients in commercial production.



To enumerate every description of tile, made by hand or turned out by machine, would be to reduce this article to a catalogue. Nor need we discuss the various bodies, ceramic or vitreous, used for tiles; the slips and oxides used for coloring them; the glazes, alkaline, plumbeous, etc., with which they are coated: some slight acquaintance with the methods of the potter is essential to the right appreciation of tiles.

Broadly speaking, however, it may be said that there are two ways of actually *making* tiles. The older way was to cut them out of slices of moist and still plastic clay. The newer way is to prepare the clay in the form of damp but powdery earth (technically "dust"), which is squeezed into iron dies under a screw press, into the form of tiles.

In like manner there are two widely different methods of getting *color* in tile work, namely, to get it in the clay itself or upon its surface. The color *in* the clay may be natural, that is, due to some coloring matter existing native in it, as with the greyish stonewares, or the red and buff terra cottas; or it may be artificial, the product of some chemical oxide mixed with the earth, to brighten it or to color it, as in the case of the dull black and green tiles commonly introduced into pavements.

The color *upon* the clay, whether in the form of a mere surface tint or of painted pattern, may consist either of clay itself reduced to the consistency of a pigment ("slip" is the technical term for it); or of enamel, that is, some mineral oxide in combination with a medium, ceramic or vitreous, according as it is meant to combine with the tile or with the glaze upon it.

In *painting* tiles, as in pottery generally, two quite different methods are adopted—"underglaze" painting and "overglaze."

In "underglaze" the color is painted upon the porous surface of the once baked clay—"biscuit," as it is called in defiance of the meaning of words; its absorbent texture, very much that of a new clay pipe, sucks in the color with a fizz almost, unless the medium employed is thick and fat—and over the painted "biscuit" is laid the glaze. In "overglaze" the pigment is painted upon the glassy surface of the glazed tile (which has been twice baked already), and it is only at the third firing that the paint becomes attached to it, or under happier conditions sinks into it—in which last case it may be said to be *in* the glaze though actually *painted over* it.

Of these two processes, "underglaze" is plainly the more direct and surer way of incorporating the painting with the clay; but, owing to the greater heat necessary in order to ensure the proper flow of the glaze in the kiln, the underglaze painter is limited to the use of colors which will survive a very fierce fire.